Design Appraisal Document

Lloyd's Register EMEA
Copenhagen Technical Support Office
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Date
08 July 2020

Please quote this reference number on all future communications
M/I122519/2000290/JLJ

Machinery General Design Appraisal

Client	:	Marine Fluid Technology A/S
Manufacturer	:	Biosteel A/S
Subject	:	Sea-Mate Blender B500 Mk2 Sea-Mate Blender B1000 Mk2 Sea-Mate Blender B3000

This Machinery General Design Appraisal is valid for a period of 5 years from the date of issue or until a change of the Rules, whichever comes first.

1. The Documents listed in paragraph 1 of the appendix have been examined for compliance with **LR Rules and Regulations for the Classification of Ships July 2020, Part 5, Chapter 12, 13 and 14 and Part 6, Chapters 1 and 2** as applicable and have been assigned an appraisal status as indicated subject to the following:

2. **Product Description**

Makers Designation	:	Sea-Mate Blender B500 Mk2 Sea-Mate Blender B1000 Mk2 Sea-Mate Blender B3000
Media	:	Lubricating Oil
Class	:	III (piping)
Design Pressure	:	6 bar
Design Temperature	:	50 °C
Purpose	:	Blending lubrication oil to obtain MECO

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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3. Comments

3.1. Note that lubrication Oil is a flammable liquid and so in according with Part 5, Chapter 14, 1.1.3 the system must also comply with Part 5, Chapter 14, sections 2 and 4.

3.2. It is not clearly determinable from the drawings, but it is assumed that, piping joints, valves, flanges and other fittings are suitable for the application. For details please refer to Part 5, Chapter 12, as they will be subject to inspection by the attending surveyor. AQS

3.3. Lloyd's Register must be advised of any design or material modifications. Failure to do so will render this general approval invalid.

3.4. The items referred to in this document are approved for installation on a ship which is classed by Lloyd's Register.

3.5. Note this approval covers only the units delivered by Marine Fluid Technology A/S and not the final installation on board, which may be subject to plan approval.

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LR030.2016.06

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Appendix

1. The documents listed below have been examined

Document No.	Rev.	Title	Status	Date
		Sea-Mate Blender B500 Mk2		
15022-300-00	**0**	**Batch blending tank**	**SI**	**08-July-2020**
15022-400-00	**R1**	**Electric wiring diagram + list of components**	**A**	**08-July-2020**
15022-900-00	**0**	**P&ID B1000**	**AQ**	**08-July-2020**
16020-100-00	**00**	**SEA-Mate Blender B1000/Diesel Generator Upgrade Kit**	**SI**	**08-July-2020**
		Sea-Mate Blender B1000 Mk2		
15022-300-00	**0**	**Batch blending tank**	**SI**	**08-July-2020**
15022-900-00	**0**	**P&ID B1000**	**AQ**	**08-July-2020**
16020-100-00	**00**	**SEA-Mate Blender B1000/Diesel Generator Upgrade Kit**	**SI**	**08-July-2020**
		Sea-Mate Blender B3000		
14103-300-00	**0**	**Blending tank**	**SI**	**08-July-2020**
192376	**AB**	**Electric wiring diagram + list of components**	**A**	**08-July-2020**
14103-100-00	**0**	**SEA-Mate blender B3000**	**SI**	**08-July-2020**

2. The documents listed below have been considered together with the submitted documents in the appraisal

Document No.	Rev.	Title
-	**-**	**SEA-Mate® General Concept description**
-	**1.2**	**Final Shop test – B3000/B1000Mk2/B500Mk2**
-	**-**	**SEA-Mate Blender B500Mk2 General Description**
-	**-**	**SEA-Mate Blender B500Mk2 Installation, Operation and Maintenance Manual**
-	**-**	**Electric diagrams (AutomationLab)**
-	**-**	**SEA-Mate Blender B1000Mk2 Installation, Operation and Maintenance Manual**
-	**-**	**SEA-Mate Blender B1000Mk2 General Description**
-	**-**	**SEA-Mate Blender B3000 General Description**
-	**-**	**SEA-Mate Blender B3000 Installation, Operation and Maintenance Manual**

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Appraisal Status Key

A	Approved - provided the arrangements are to the surveyor's satisfaction
AQ	Approved subject to the matters raised that require resolution - and provided the arrangements are to the surveyor's satisfaction
AQS	Details to be submitted by the client to the local surveyor's Office responsible for surveying the building and the arrangements verified in accordance with the Rule/Regulations requirements by the surveyor.
SI	Retained as supporting documentation for information only

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